REARING THE GREENBOTTLE FLY ON DOG BISCUITS

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The greenbottle fly, *Phaenicia sericata* (Meigen), was successfully raised on dog biscuits in the laboratory, following the method described by Frings (1947, 1948), with a few modifications. "Milk Bone Small Size Dog Biscuits," manufactured by the National Biscuit Company, was the brand used. The small size dog biscuits gave better results than the "Milk Bone Tiny Bits," as there was less packing of the medium. The addition of powdered milk as a source of protein for the adults to feed on increased egg production, and the flies started oviposition sooner than when fed only on moist dog biscuits.

The laboratory colony was started by caging wild flies and feeding them on powdered milk and moist dog biscuits. Three and one-half dog biscuits were placed in a 50 ml. beaker filled with water, and left in the cage for 24 hours for the flies to oviposit on. The mass of eggs and dog biscuits was then placed on top of the prepared larval food.

To prepare food for the larvae, dog biscuits were placed in a gallon jar to a depth of two inches, covered with water and allowed to stand until soaked through; then the water was poured off. The biscuits were soft to the touch throughout when ready; the time it took for the water to soak through the dog biscuits varied from one batch to another. Fine wire screen was used to confine the maggots to the jars. If the population of maggots was too high for the available food, additional moist dog biscuits were added at the rate of two inches at a time.

The maggots fed for six to seven days at 80 degrees F. Coarse sawdust was added on top of the mixture for the maggots to pupate in. After pupation the sawdust containing the puparia was poured out and placed in cages for emergence.

Very little odor was noticed during the rearing of the flies. After the maggots left the media to pupate, decomposition odors were noticed but these were held back by the sawdust.

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LITERATURE CITED

FRINGS, H.
1947. A simple method for rearing blowflies without meat. Science, 105 (273) : 482.

FRINGS, H.
1948. Rearing houseflies and blowflies on dog biscuit. Science, 107 (2789) : 629-630.

A NOTE ON THE MANNER OF FEEDING OF AGULLA ADNIXA HAGEN

(Raphidiodea: Raphidiidae)

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In feeding, this species devours aphids entirely, swallowing all parts and rejecting nothing. The prey is masticated rapidly and then swallowed with a gulping motion. An adult female, placed in a vial containing a twig with fifty-seven aphids, began at the bottom of the colony and ate it entirely in less than nine minutes.

Feeding is systematic and rapid. The head is passed among the foliage and surfaces palpated with both pairs of palpi. Sight appears to play but little part in the location of prey. Upon touching an aphid, the head is then withdrawn and the long pronotum arched back, and the head then darts forward with great speed, in a snake-like movement that is nearly too fast to follow. The prey is grasped by the mandibles and the head is raised slightly and withdrawn. The mandibles work rapidly and rythmically while the palpi, for the most part, are not applied to the victim once it is captured, but are vibrated rapidly.

The gular sutures are very flexible and may be seen to give to some extent as swallowing takes place. After the colony was eaten, a second inspection of the twig took place, very carefully done, to be sure that no further prey remained. Subsequently, an extended period of grooming and adjustment of appendages followed, including raising, lowering and extension of the wings, without any attempt to fly. A period of apparent torpidity then ensued, and no further activities followed during the remainder of the day.

Next morning the raphidid appeared to be as hungry as before, and repeated the entire process in a similar manner with another aphid colony. This behavior indicates a very effective predator.